

# APPENDIX A-1



Acheson Colloids Company  
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## SS 24600

### Fast Drying, Conductive Graphite Coating

#### DESCRIPTION

SS 24600 is one of a series of Acheson coatings designed to provide controlled electrical properties.

SS 24600 is a dispersion of finely divided graphite in a thermoplastic resin that rapidly air dries to form a flexible conductive coating. It is designed to be applied by typical spray, flexographic or gravure print techniques.

SS 24600 is fully miscible with Electrodag® PD-034 (conductive silver coating) to product a range of resistance between 0.1 ohm/square to 40 ohms/square.

#### TYPICAL APPLICATIONS

- Electronic circuitry
- Flexible conductive coating for plastic substrates
- EMI shielding
- Flexographic and rotogravure printed circuits
- Medical sensors

#### ADVANTAGES

- Excellent conductivity achievable at 20 ohms/sq/mil (25µm)
- High speed flexographic or rotogravure printable

#### TYPICAL PROPERTIES (of wet product)

Pigment	: graphite
Binder	: PVC resin
Diluent	: n-propyl acetate
Color	: black
Consistency	: liquid
Density	: 9.0 lbs/gal (1.08 kg/l)
Solids content by weight	: 38%
Flash point	: 58°F (14°C) (Tag closed cup)
Viscosity	: 3,500 mPa-s (Brookfield RVT #4 spindle @ 20 rpm @ 77°F/25°C)
Theoretical coverage	: 370 sq ft/gal @ 1 mil (8.40 m²/kg @ 25 µm) (9.1 m²/l @ 25 µm)
VOC	: 5.67 lb/gal (681 g/l)

#### TYPICAL PROPERTIES (as cured)

Color	: black
Maximum service temp.	: 220°F (104°C)
Sheet resistance	: < 40 ohm/sq @ 1 mil (25 µm) film thickness
Pencil hardness	: HB

Coating resistance may be varied by controlling the film thickness.

# APPENDIX A-2



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## Electrodag® PD-034

### Fast Drying Conductive Silver Coating

#### DESCRIPTION

Electrodag PD-034 is one of a series of Acheson coatings designed to provide controlled electrical properties.

Electrodag PD-034 is a suspension of silver pigment in a thermoplastic resin that rapidly dries to form a flexible conductive coating. It is designed to be applied by typical flexographic or gravure print techniques.

Electrodag PD-034 is fully miscible with SS 24600 (conductive graphite coating) to produce a range of resistances.

#### TYPICAL APPLICATIONS

- Electronic circuitry
- Flexible conductive coating for plastic substrates
- Flexographic and rotogravure printed circuits
- EMI shielding
- Medical sensors
- Smart labels

#### ADVANTAGES

- Excellent conductivity achievable at 0.010 ohms/sq/mil (25µm)
- High speed flexographic or gravure printable

#### TYPICAL PROPERTIES (of wet product)

Pigment	: silver
Binder	: vinyl resin
Diluent	: PM acetate
Consistency	: liquid
Density	: 16 lbs/gal (1.92 kg/l)
Solids content by weight	: 60% by weight
Flash point	: 117°F (47°C)
Viscosity	: 2,000 mPa-s (RVT #4 spindle, 20 rpm @ 77°/25°C)
Theoretical coverage	: 306 sq ft/gal @ 1 mil (3.92 m²/kg @ 25µm) (7.51 m²/l @ 25 µm)
VOC	: 6.49 lb/gal (778 g/l)

#### TYPICAL PROPERTIES (as cured)

Color	: silver
Maximum service temp.	: 220°F (104°C)
Sheet resistivity	: < 0.015 ohms/sq @ 1 mil (25 µm) film thickness Typical is 0.008 ohms/sq/mil

# APPENDIX

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a National Starch & Chemical Company

## Electrodag® Photograving and Flexographic Coatings Product Selection Guide

PRODUCT	PIGMENT			CARRIER	SUBSTRATE		BINDER	TYPICAL RESISTIVITY	COMMENTS
	Ag	Ag/AgCl	C	Water	Solvent	Polyester	Paper		
Electrodag PD-034	5				◆	▲		Vinyl <0.015	Can be blended with SS24600 for custom resistivity.
Electrodag PM-011	5				◆		▲	Nitro-cellulose <0.020	Excellent printability and resistivity on paper substrates.
PE-001	5			◆		▲	▲	Acrylic Urethane <0.050	Low VOC material.
SS24639		9			◆	▲		Vinyl <0.150	Excellent for use in medical electrodes.
SS24936		9		◆		▲		Acrylic Urethane <0.120	Low VOC material. Excellent for medical electrodes.
PE-007		9			◆	▲		Polyurethane <0.100	Superb resistivity for high speed printing.
SS24600			9		◆	▲	▲	Vinyl <40	Can be blended with PD-034 for custom resistivity.
Electrodag PM-003A			5		◆		▲	Nitro-cellulose 15	Excellent high speed printability.
PE-003			9	◆		▲	▲	Thermoplastic <35	Low VOC Carbon.

Electrodag is a registered trademark of Acheson Industries, Inc.  
For specific information please refer to the individual product data sheets.